

KARIMPUR PANNADEVI COLLEGE

Sub: Physics (GENERAL) Paper: PHY-G-CC-T-04 F.M-20

4TH SEMESTER INTERNAL EXAMINATION, 2020(BLENDED MODE)

Students are strongly advised to write answers in their own words.

Answer any ten questions from the following:

2×10=20

1. Iron has a BCC structure with atomic radius 0.123 \AA . Find the lattice constant.
 2. The interplanar spacing of (220) plane of a FCC structure is 1.7458 \AA . Calculate the lattice constant.
 3. State the Bragg law. What do each of the terms represent?
 4. Explain the Dulong-Petit rule. Why does one obtain a constant heat capacity per mol?
 5. Describe the Pauli principle and its implication for the free electron gas.
 6. Describe (a) Ferro, (b) Para. and (c) Dia- magnetic materials.
 7. Dia-magnetic materials have –ve susceptibility – Explain briefly.
 8. Estimate the amount of energy loss due to Hysteresis Effect in magnetic materials.
 9. What is Hall Effect? Define hall co-efficient.
 10. What is Meissner effect?
 11. What is isotope effect in superconductivity?
 12. What is Curie temperature in magnetism?
 13. Establish the relation concerning D, E, and P.
 14. What is Clausius-Mosotti relation of dielectric constant?
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